

## TRAILL'S FLYCATCHER IN NEW YORK

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A CONTROVERSY over the subspecific division of Traill's Flycatcher (*Empidonax traillii*) in the eastern portion of its range has existed since Brewster (1895) gave the name *alnorum* to the breeding form of the boreal northeast. Few authors supported Brewster in this division until Aldrich (1951) finally demonstrated that two eastern subspecies are, indeed, recognizable. Aldrich claimed that Brewster had named the wrong population and that Audubon's type specimen of *traillii* was a migrant of the boreal race. Aldrich placed *alnorum* as a synonym of *traillii* and gave the name *campestris* to what he called the "Plains Traill's Flycatcher." Snyder (1953) agreed that two subspecies should be recognized, and defined their respective ranges in greater detail than had Aldrich. Snyder, however, felt that the naming of *campestris* was unnecessary, and preferred to use *alnorum* and *traillii* as originally proposed by Brewster. Nomenclature is outside the scope of the present paper. My notes were assembled before the appearance of Snyder's paper, and use the names *traillii* and *campestris* following Aldrich. For convenience I use the latter nomenclature here; this is not to be construed as an endorsement of Aldrich's findings nor a refutation of those of Snyder.

Much of the interest in Traill's Flycatcher centers on the fact that the two eastern subspecies are barely separable morphologically but are strikingly different in song and habits. These differences have been discussed by Snyder (1953) and Aldrich (1953). McCabe (1951) discussed the question of song, but as pointed out by Allen (1952) and Snyder (1953), several of McCabe's findings are subject to reinterpretation. To summarize the differences between the subspecies, *traillii* builds a bulky, coarse nest not unlike that of a Song Sparrow (*Melospiza melodia*), prefers on the average a wetter habitat, tends to lay heavily spotted eggs, and sings a three-syllabled song accented on the second syllable; the *wee-be-o* of Peterson (1947:152) and many others. On the other hand, *campestris* builds a compact nest much resembling that of a Yellow Warbler (*Dendroica petechia*), frequently lives in drier situations, tends to lay sparsely spotted eggs, and sings a two-syllabled song accented on the first syllable; the *fitz-bew* of Peterson (*loc. cit.*). The objective distinctness of the two songs is well illustrated by the audio-spectrographs of Kellogg and Stein (1953).

Both Snyder (1953) and Aldrich (1953) have discussed these characteristics of the two races with particular emphasis on the portions of the range where only one of the two is found. Both authors have mentioned New York as one of the regions in which *both* subspecies may be found. Aldrich (1953:9) stated: "It is possible that the western prairie population of Traill's

Flycatcher was formerly more completely isolated from the eastern boreal population, but has recently come into closer contact by infiltration from the west, along the plain of the Great Lakes, since removal of the original forest cover has produced more satisfactory habitat for it." Students of bird distribution in New York will recognize this as a well-known route of penetration into the state by species of southern and western affinities. That Aldrich's theory is probably correct is indicated by the discussion of this species in Eaton's "Birds of New York" (1914). Eaton knew the bird chiefly as an inhabitant of the mountains and cold bogs. His description of the song, nest, and eggs leaves little doubt that the bird he knew in New York was the race we now call *traillii*. However, he mentioned that the bird was appearing in the "Transition Zone" of the western part of the state where it had not been previously known. We may postulate that these immigrants were *campestris* moving in from the west.

A number of austral birds have penetrated New York from two directions; from the west along the Lake Plains and from the south entering the lower Hudson valley. This is apparently true of *campestris*. The breeding form of the Adirondack Mountains, most of the Catskill Mountains, and of the "Canadian Zone" islands in central and western New York is definitely *traillii*. The breeding form of the Lake Plains as far east as Oswego is *campestris*. So much has been acknowledged by recent authors. Richard B. Fischer, who has been conducting a study of this species in southeastern New York, has shown that the breeding population of Long Island conforms most closely in song and habits to the type we are calling *campestris* (Fischer, 1950). That this race is penetrating the normal range of *traillii* is indicated by Mr. Fischer's unpublished data concerning the birds breeding in the valleys of the southwestern part of the Catskill region. Birds singing the *fitz-bew* song of *campestris* were found as far north as Lew Beach, in northern Sullivan County. Authentic breeding specimens from southeastern New York are greatly to be desired. It seems almost certain that these birds will prove to be *campestris*, judging from what we know of their song and habits.

It thus seems evident that McCabe (1951) should not have lumped together his New York records of the songs of Traill's Flycatcher. According to McCabe, a questionnaire circulated among the members of the Linnaean Society of New York produced the following interpretations of the song: *fitz-bew*, 11; *wee-be-o*, 3; *greadeal*, 2; *sweet-cheeuu*, 1. Two things are apparent from this listing. First, the members of the Linnaean Society were influenced by their reading in giving their phonetic interpretations, as all of these, letter for letter, have appeared in the literature. Second, twelve of the members learned the song from the southern race, *campestris*, and five from the northern *traillii*. This proportion would not be unexpected, since, as mentioned above, the

*campestris* song is typical of the breeding birds in the New York City region where the Linnaean Society students are most active.

The situation in western and central New York is more complicated. Aldrich (1953:9-10) stated: "The relatively slight physiographic and ecological barrier which exists today between the Interior Lowlands and Appalachian Plateau physiographic provinces in western New York apparently has been sufficient to prevent complete genetic intermingling of these two populations as indicated by both specimens and field observation of song differences. . . . the correlation of their distribution with the sinuous boundary between plain and plateau results in extremely interdigitated ranges."

There is some evidence that the ecological barrier between these two forms breaks down occasionally, so that reproductive isolation is not complete. This is what we expect to find between subspecies. Snyder (1953:20, footnote) has described a nest which appeared to be of an intermediate type. Both *wee-be-o* and *fitz-bew* birds are to be found in the Finger Lakes region. The latter form, which has increased remarkably in this region in the past few decades (supporting Aldrich's theory of an eastward range extension of the prairie form *campestris*), is an inhabitant of the valley of Cayuga Lake and its tributaries, a generally warmer region than swamps such as that near Danby where the *wee-be-o* type nests. However, correlation of habits and color in this region is not complete. During the course of his revisionary study, Aldrich had at his disposal the excellent series of Traill's Flycatcher from the Cornell University collection. He placed his identifications on the labels of these specimens. Some specimens from the Ithaca region taken in definitely boreal habitats (and which showed other habits of the boreal bird) were identified by Aldrich as *campestris*. Some Ithaca austral birds were labeled *traillii*. One mated pair (clearly so stated on labels) was divided between *campestris* and *traillii* by Aldrich. If we assume that color is a constant in these races and color alone is used in identification, then Aldrich's determinations are correct. On this premise it would appear that interbreeding of the two subspecies in the Ithaca region has resulted in some birds with the external appearance of one form and the habits of the other. This would seem to indicate independent segregation of genes governing color, nest-building habits, egg pigmentation, and song (if we assume genetic control of the latter).

Such a recombination of characters should be expected wherever *campestris*, apparently in a dynamic period of range expansion correlated with a general change in cover type and possibly climate, has penetrated the range of *traillii*. There is evidence that this has taken place in northwestern Pennsylvania. Breeding specimens from Crawford County in Carnegie Museum are indistinguishable in color from a long series of undoubted *traillii* from Labrador. Mr. W. E. Clyde Todd tells me that he has never heard a song of this species

in western Pennsylvania that differed from the song heard in the boreal forests of eastern Canada. The two most recently collected sets of eggs of this species in Carnegie Museum were taken in Crawford County in June, 1947. The eggs are heavily spotted like those of *Empidonax vireescens*, a characteristic of *E. t. traillii*. They were taken in the same general area as were the skins of *traillii* coloration mentioned above. Yet set no. 4356 bears a note by the collector, R. L. Fricke, to the effect that the nest resembled that of a Yellow Warbler, a characteristic of *campestris*!

There are several other areas where the ranges of *campestris* and *traillii* interdigitate; these are shown by the vertical dashes in Snyder's map (1953: 21). Much can be learned of the interrelationships of these two forms if field students will make careful note of the song, nest construction, egg color and habitat preference of the Traill's Flycatchers in these areas, and supplement this by judicious collecting of *known* breeding birds. This should be done at intervals over as long a period as possible, since *campestris*, as noted above, is apparently in an active period of range expansion.

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